

## **ABSTRACT**

This invention discloses methods for polarization modulation for fiber optic and wireless applications. A brief background discussion of polarization for plane electromagnetic waves is provided, including representation of the unique polarization state of a wave using the Poincare sphere. Extensions required for polarization modulation are disclosed as an improvement to the modulation techniques commonly used in digital broadband communications. A novel spinning linear polarization multiplexing method called Spin Polarized Wave Division is also disclosed.

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